

ture of goods to be supplied to IDA/IBRD/Bilateral/Multilateral aided projects in the country from the whole of basic, auxiliary and additional duties of customs leviable thereon.

(x) GSR 572(E) published in Gazette of India dated the 20th September, 1982 together with an explanatory Note increasing the rate of export duty of Coffee.

[Placed in Library. See No. LT-4513/82].

(4) A copy each of the following Notifications (Hindi and English versions) under sub-section (2) of section 38 of the Central Excises and Salt Act, 1944.

(i) The Central Excise (Tenth Amendment) Rules, 1982, published in Notification No. GSR 684 in Gazette of India dated the 14th August, 1982.

(ii) The Central Excise (Eleventh Amendment) Rules, 1982 published in Notification No. GSR 563(E) in Gazette of India dated the 10th September, 1982.

[Placed in Library. See No. LT-4513/82].

(5) A copy each of the Notifications Nos. GSR 548(E) and 549(E) (Hindi and English versions) published in Gazette of India dated the 31st August, 1982 together with an explanatory memorandum regarding new rates of Compounded Levy in respect of specified textile fabrics and new rates of rebate on export of embroidered fabrics of specified varieties, issued under the Central Excise Rules, 1944. [Placed in Library. See No. LT-4514/82].

12.28 hrs.

CALLING ATTENTION TO MATTER OF URGENT PUBLIC IMPORTANCE

FAILURE OF INSAT-1A

SHRI RAJESH KUMAR SINGH (Firozabad): I call the attention of the Minister of State for Science and Technology, Electronics, Ocean Development and Non-Conventional Energy Sources to the following matter of urgent public importance and request that he may make a statement thereon:—

"Reported failure of INSAT-1A and steps taken by Government to meet the situation."

THE MINISTER OF STATE IN THE DEPARTMENTS OF SCIENCE AND TECHNOLOGY, ELECTRONICS, OCEAN DEVELOPMENT AND THE DEPARTMENT OF NON-CONVENTIONAL ENERGY SOURCES IN THE MINISTRY OF ENERGY (SHRI C. P. N. SINGH): On 4th September 1982, at about 1356 Hrs. (IST) the INSAT-1A spacecraft lost its orientation towards Earth following an abnormal drift around the North-South axis. This resulted in loss of normal telemetry signals. Emergency procedures were initiated by the spacecraft controllers to put the spacecraft in high-power omni-directional telemetry mode and to shed all non-essential load on spacecraft power sub-system and to place the spacecraft in 'Safe' sun-acquisition mode pending trouble shooting and implementation of necessary recovery procedures. The situation got complicated when the high-power telemetry failed to turn on when commanded during the procedure to place the spacecraft in the 'Safe' mode. The high-power telemetry was not available until 1815 Hrs. i.e. for crucial 4 hours and 19 minutes. During this period only short intermittent patches of telemetry were available and all the commanding had to be done without having telemetry

[Shri C. P. N. Singh]

confirmation of the receipt and execution of commands. At 1815 Hrs. when telemetry contact was regained while it was verified that the spacecraft was in the sun-acquisition mode, the roll rate was lower than commanded. At 1816 Hrs. the spacecraft was commanded for earth-acquisition. Even though the issue of the command was confirmed by telemetry, the spacecraft did not respond. Two further subsequent attempts were made but there was no success. At this point it was recognised by the mission-controller that thrust levels from the Attitude & Orbit Control System thrusters were significantly lower than normal. On checking, the pressures in fuel, oxidizer and pressurant tanks were found to be very low.

12.27 hrs.

[MR. DEPUTY-SPEAKER in the Chair.]

On 5th September, further attempts to improve the roll rate were unsuccessful. Tank pressures dropped further and it was concluded that no more propellant was left in tanks and the pressurant gas was flowing out through the thrusters whenever commanded to fire. At 0257 Hrs. all subsystems on board INSAT-1A spacecraft except command receivers, were turned off as per established procedures. The spacecraft was, thus, deactivated at 0257 hrs. on 6th September, 1982.

Actions for a full failure review of INSAT-1A spacecraft are on. Until the failure analysis has been completed, which is expected by end of October 1982, it would be premature to venture into any definite conclusion of the precise causes of failure. However, a preliminary reconstruction of events indicates that propellant loss was most probably caused by failure of an Oxidizer latch valve to open when commands were sent to support spacecraft in 'Safe' sun-acquisition mode. Telemetry failure prevented timely recognition of the problem; meanwhile, the automatic mode of

thruster operation would appear to have drained away fuel. In the absence of Oxidizer and hence of combustion in the thruster chambers, the fuel drain rate was much higher than normal. However, the cause of the attitude (orientation) loss is not yet understood. There are several hypotheses and work on establishing the most probable cause is progressing.

The INSAT-1A spacecraft loss has occurred during the initial 180 day period during which (i) INSAT-1A launch all risks insurance cover for US. \$ 64.9 million was in effect, and (ii) the spacecraft Contractor, namely, Ford Aerospace and Communications Corporation (FACC) was responsible for operation and maintenance of the launched spacecraft from MCF Hassan, before handing it over to the Indian personnel working side-by-side. The Insurer, namely, the New India Assurance Co. Ltd., have been advised of the total loss of INSAT-1A in terms of the launch, all risk insurance cover obtained from them.

The unexpected and unfortunate loss of INSAT-1A spacecraft is a severe setback to the INSAT system and to Government's objectives of speedy and timely realisation of satellite services for quantitative as well as qualitative improvement of national long-distance telecommunications, meteorological and TV and Radio services. However, the Government is committed to overcoming this setback and to the earliest possible restoration and stabilisation of INSAT system operating capacity. Until the availability of INSAT-1B spacecraft, interim arrangements for restoration of the satellite based essential telecom, TV and radio services to the extent practical are under implementation.

The meteorological ground-segment will have to await operationalisation of INSAT-1B as there is no other geostationary meteorological space-segment capability available over India and adjoining sea and land masses of interest. During this interim period

We would have to depend on twice a day meteorological imagings available from US and USSR orbiting meteorological satellites, as before INSAT-1A.

As far as the essential telecom services are concerned seven of the INSAT-1 earth stations have already been put into operation with INTELSAT Part transponder lease and the remainder will be progressively introduced in service in the next two to three months; INTELSAT allocation of additional transponder capacity was sought and has been received. Similar actions are underway in respect of restoration of satellite-based TV networking service. Similarly planning actions to incorporate necessary adjustment to the existing INSAT space-segment replenishment strategy to ensure continuing availability of INSAT space-segment capability on an assured basis after INSAT-1B launch are also underway.

INSAT-1B is slated for launch on the Eighth flight of Space Shuttle (STS) on July 4 1983; however, there may be some changes to this schedule to accommodate corrective measures resulting from the INSAT-1A. Failure Investigation and also for compliance with latest NASA stipulations of STS launch loads resulting from STS-1 and STS-2 flight data as compared to those earlier predicted. As such, firm schedule for INSAT-1B launch is expected to be available in November, 1982.

The INSAT-1 spacecraft manufacturer, namely Ford Aerospace & Communications Corporation (FACC), have experience which covers about 75 spacecraft including 12 of the latest INTELSAT-V series of advanced communications spacecraft, the first four of which are already in orbit and others are under deployment. FACC's spacecraft experience covers communications satellite for

USA, UK, NATO, Japan and INTELSAT and also US Geo-stationary Meteorological spacecraft.

The spacecraft contractor also has interest in continued satisfactory operation of spacecraft on-orbit. A certain part of payment, representing at least some of the profit, is tied with the orbital performance of the spacecraft during its stipulated design life (7 years). Less than satisfactory operation also, therefore, results in loss of monies to the spacecraft contractor. In a catastrophic loss situation, such as INSAT-1A non-payment of such monies together with recovery of the insurance claim, while covering a good part of the financial outlay, cannot compensate the overall setback to the programme.

Failures of the kind observed on INSAT-1A are not unknown to space missions. The history of space development, especially of new ventures, is full of initial failures and setbacks. The lessons of INSAT-1A will be fully taken into account on INSAT-1B. There is no evidence to conclude that our endeavour to seek a multi-mission spacecraft for improved system economics through integration of services is not practical. Multi-mission spacecraft have flown successfully before INSAT-1A. In fact, the type of deployment, electronics and fuel depletion problems observed on INSAT-1A can and have taken place in single mission spacecraft also.

It is our firm belief that the multi-mission functional requirement for INSAT-1 mission defined through extensive studies during 1976-77 are sound and feasible and that the basic design of INSAT-1 spacecraft is sound. The recent failure of an operational flight of an European launcher which results in the loss not only of the launch vehicle but also of two important spacecraft does not cast doubts over the soundness to the basic design of launcher. Despite extensive test-

ing and simulations on ground, experience the world over shows that minor defects related to workmanship and specific hardware design sometime remain undetected and show up in the extreme space environment causing problems and sometimes catastrophes. Reliability in space is built over time with successes as well as failures. The component and sub-system of INSAT-1A including several which have exhibited anomalies were not only qualified on ground under simulated space conditions but also have had prior successful space flight records.

All necessary action will be taken by Government to ensure continued availability of INSAT space-segment capability beyond INSAT-1B on an assured basis as is essential for an operational system. As an important step in this direction, we will do all that is practical to accelerate actions on early realisation of second-generation Indian designed and built INSAT test and operational spacecraft within the country as spelt out in the Space Research and Development Profile for Decade 1980—90.

MR. DEPUTY-SPEAKER: Shri Rajesh Kumar Singh.

SHRI CHANDRAJIT YADAV (Azamgarh): I want to raise a question of propriety. This is an important matter. A national catastrophe has happened and a statement is being made. But not a single Cabinet Minister is present in the House. This is something very serious.

SHRI HARIKESH BAHADUR (Gorakhpur): The Prime Minister should have made the statement.

SHRI CHANDRAJIT YADAV: This has to be taken note of.

MR. DEPUTY-SPEAKER: Now the Calling Attention is going on.

(Interruptions)

MR. DEPUTY-SPEAKER: I can understand.

(Interruptions)

MR. DEPUTY-SPEAKER: Please, Mr. Yadav. As a matter of fact it is a Calling Attention that is going on. He has already raised it and the Minister concerned has already replied.

SHRI CHANDRAJIT YADAV: The practice is that at least a Cabinet Minister should always be present. It is not an unimportant question. It is a very important matter. Suppose, I raise certain questions, who is going to answer?

MR. DEPUTY-SPEAKER: Your name is there. At that time you can say this. Shri Rajesh Kumar Singh. It is all right.

SHRI CHANDRAJIT YADAV: I am sorry. I am very sorry about this.

SHRI HARIKESH BAHADUR: The Prime Minister should have replied to this.

SHRI CHANDRAJIT YADAV: This is total denigration of the House.

SHRI HARIKESH BAHADUR: She should have spoken, at least. She should have replied to this question.

MR. DEPUTY-SPEAKER: I should not have permitted you.

SHRI HARIKESH BAHADUR: The Prime Minister should have replied.

MR. DEPUTY-SPEAKER: It is all right. Mr. Rajesh Kumar Singh.

श्री राजेश कुमार सिंह : उपाध्यक्ष महोदय, बहुदृष्टीय उपग्रह, इन्सट 1-ए के सम्बन्ध में कहा गया है कि 180 दिन और कुछ मिनटों का कहना है कि 150 दिन में ही वह खामोश हो गया जिसके कारण संचार, मौसम विज्ञान तथा

रेडियो और दूरदर्शन को जबदस्त धक्का पहुंचा है—इसमें कोई दो रायें नहीं हो सकती हैं। माननीय मंत्री जी ने जो वक्तव्य यहां पर दिया है उसके सन्दर्भ में ही मैं कुछ बातें कहना चाहूंगा। उनके अनुसार 275.69 करोड़ की यह योजना थी जिसमें 113 करोड़ (64.9 मिलियन अमरीकन डालर) के बीमे की बात उन्होंने कही है। इस बात से संतुष्ट हो गए कि हमारा बीमा है, कुछ तो हमें मिलेगा ही। इनसेट-बी, जो कि अप्रैल, 1983 में आप छोड़ने वाले हैं, उसी के संदर्भ में मैं अपनी बात की शुरुआत करना चाहता हूँ। इनसेट का स्टैंड-बाई बी था, उसके बाद कोई नहीं है। सारी संचार व्यवस्था उस पर निर्भर है। इसके बाद भी यदि इसका यही हथ हूआ तो एक लम्बा अन्धकार है। आप की योजना अभी तक लागू नहीं हुई है। प्रश्न यह उठता है कि आप इस को किस तरह से करेंगे ?

आपने कहा है कि फोर्ड एयरोस्पेश कम्पनी बड़ी त्रुटिकार है। जैसा कि मंत्री जी ने कहा है, मैं मान सकता हूँ कि यह बात मानने योग्य है। इनसेट को छोड़ने में दो दिन का डिले हो गया। दो दिन का डिले ही नहीं, सारा ईंधन खत्म हो गया, यह गम्भीरता से विचार करना चाहिए, क्योंकि इनसेट-बी जो आप छोड़ेंगे, उसमें भी यही प्रश्न पैदा होंगे। दो दिन का डिले होना, साढ़े आठ किलो का वजन बढ़ना—बड़ी अजीब बात है। इतना वजन बढ़ने के बाद "नासा" से इस के बारे में विचार-विमर्श किया गया। तीन किलो के बारे में सुझाव दिया गया और पांच किलो ईंधन उसका कम कर दिया गया। आप खुद भी अपने वक्तव्य में कहते हैं कि ईंधन के खत्म होने का कारण यह हो सकता है। एन्टीना-सी का न खुलना, बार-बार उसे

कलाबाजियां खिलाना और सही मायने में उसे जिस कक्ष में भजना था, वह सही दिशा में नहीं पहुंच पाया है। हो सकता है कि वह उसके नजदीक हो। यदि इन सब चीजों को आप देखेंगे तो आप पायेंगे, कि कहीं न कहीं पर खामियां जरूर हैं। अब वह खामियां किनकी हो सकती हैं—मैनुफैक्चर की या आपके वैज्ञानिकों की खामी हैं। आपने यह कहा कि विज्ञान के अन्दर अनुभव पैदा करने के लिए वक्त लगाता है—मैं इस बात को मानता हूँ। अनुभव बहुत दिनों के बाद पैदा होता है। लेकिन दुःख की बात यह है कि सारी योजनाओं पर पानी फिर गया। एशियाड 82 के बारे में आपने कहा, रंगीन टेलीजिबन के बारे में आपने कहा पता नहीं उनकी संचार व्यवस्था आप किस तरह से करेंगे—मुझे इसमें भी सन्देह है।

मैं माननीय मंत्री जी से और आदरणीय प्रधान मंत्री जी से, क्यों कि यह उनका विभाग है, पूछना चाहता हूँ कि क्या आप ने इस बारे में जानकारी हासिल की है कि कोई मैनुफैक्चर डिफेक्ट है या हमारे वैज्ञानिकों की कोई गलती थी या

Whether Government proposes to ask the Ford Aerospace and Communication Corporation to explain the damage and share the burden of loss.

इस बर्डन आफ लास के बारे में आपने कोई एक्सप्लेनेशन मांगा है ? इस संबंध में आपके पास कोई स्पष्टीकरण आया है ? मजे की बात यह है कि इतनी बड़ी योजना थी और इतनी अवधि के बाद इसकी तैयारी पूरी नहीं थी। मैं आपको जानकारी के लिए बताना चाहता हूँ, जैसा कि पेपर्स में निकला है —

"The Director of the Space Application Centre, Ahmedabad, recently pointed out that little preparation

[श्री राजेश कुमार सह]

was made to utilise the full potential of INSAT. None of the 100 meteorological data collection platforms planned to have been commissioned along with INSAT are in operation."

ऐसा लगता था कि जर्मन की तैयारी भी आप के काम्यूनिकेशन विभाग ने या अन्य विभागों ने नहीं की थी। खामियां पहले से नजर आ रही थीं। इन सब बातों के बारे में आपको जवाब देना चाहिये।

एक बात और—नो हाउ, जान, हमारे पास है लेकिन हए साफिस्टिकेटेड टेक्नालाजी की बात करते हैं और उसको विदेशों से लेते हैं। हमारी महत्वकांक्षाएं बहुत बड़ी हैं हमारी आभां-धायें बहुत बड़ी हैं—लेकिन हम उसको युटिलाइज नहीं कर पाते हैं।

उपाध्यक्ष महोदय, आप के भाध्यम से मेरा यह भी सुझाव है कि कम से कम अपने तरीके से भी हमें कुछ सोचना चाहिये। साफिस्टिकेटेड टेक्नालाजी में पड़ने से पहले उस के सारे खतरों के बारे में उसकी सारी संभावनाओं के बारे में हमें पूरी जानकारी हासिल करना चाहिये। यदि ऐसा नहीं हुआ तो निश्चित रूप से कोई न कोई ऐसी परिस्थिति आ सकती है जिस से हम खतरे में पड़ सकते हैं। ये सारे बुनियादी प्रश्न हैं जिनके बारे में मैं मंत्री जी से जानना चाहूंगा।

मैं यह भी जानना चाहूंगा कि क्या सरकार इन्सेट वॉ का जो परीक्षण का समय आ रहा है उस के लिये कुछ तैयारियां कर रही हैं क्या उस के बारे में सरकार ने कोई नीति निर्धारित की है और कोई योजना बनाई है। उसको छोड़ने के बारे में कोई विशेष टोस

कार्यक्रम बनाये गये हैं। सोफिस्टिकेटेड टेक्नालाजी की बात हमारे दिमाग में बन गई है। क्या भारतीय जमीन पर इण्डियन रूप में इसके बारे में विचार किया गया है क्योंकि अगर ऐसा नहीं किया गया है तो इस तरह की गड़बड़ आगे भी हो सकती है। आपने कोई वैज्ञानिक समिति इसकी जांच करने के लिये बनाई है और उसने क्या निष्कर्ष निकाले हैं? क्या उनको आप इस सदन में प्रस्तुत करेंगे?

दीमा के सम्बन्ध में आप ने कहा है। इसके बारे में विदेशों की बीमा कम्पनी की क्या प्रतिक्रिया है। इस की भी जानकारी होनी चाहिये।

SHRI C. P. N. SINGH: The hon. Member has put forward some very relevant questions, which I am going to answer, for the simple reason that I think there seems to be some misconception, because of certain press reports that have been appearing in the paper in the past few days.

The launching of the INSAT-1A was not delayed because of any technical hitch with the launcher. If the hon. Member remembers the statement that I made at the time of launching, it was delayed because of the seasonal aberrations and some meteorological problems, because of heavy monsoon in that area and the need to replace the solar sail.

Regarding the contract that was given to this particular Company, I would like to clarify the point. When the global tenders were floated, some 15 companies bought the particular tender form, which was priced at about 100. But, later on, the filling in or submission of the tenders was made by only two companies; one was Ford Aerospace & Communication Corporation and the other was Hughes.

I would also like to bring before this august House the period when all this happened. These were all looked into by the then Government from 1977 and finally the tenders were opened and negotiations took place with the Ford Aerospace in 1978.

The hon. Member pointed out about Asiad. Here I would like to make my submission that the previous Government had not even thought of using this satellite for the television. It is a multi-purpose satellite, which will look into not only communication but television, radio and meteorology. The then Government had not this project in mind; then television would have been only to the urban elite, not to rural India. This decision was taken later on. I can assure this august House that we are taking all necessary steps, we have approached the people concerned and bought time on another satellite, INTELSAT, and that we will be able to show Asiad to the people, not only in the cities but also to the rural masses.

**SHRI SATYASADHAN CHAKRABORTY** (Calcutta South): How will you provide television to the masses in the rural area...

**SHRI C. P. N. SINGH**: The Government is taking necessary steps to have community receiving sets in those areas, and those community sets will be provided either by the State Government concerned or the Central Government.

**MR. DEPUTY-SPEAKER**: His State Government would do it.

**SHRI C. P. N. SINGH**: I wish the State Governments do it.

Sir, the hon. Member also pointed out another fact about the meteorological imageries. Here, for his attention and for the attention of this august House I would like to state that till August 13, this component of the satellite was functioning and we got approximately 580 imageries which today are in great demand because of

the clarify and perfection of the imageries that we got right down here in India.

Sir, there can be various thoughts about high technology and our cooperation with various countries. We try and get the best from wherever it be; our scientists and technicians are in responsible and high positions all over the world. So, what the hon. Member spoke of Bharatiya technology, I think, would be limiting technology and not advancing it.

**श्री राजेश कुमार सिंह** : उसे एडवांस करने के लिये क्या प्रयास किये जा रहे हैं ?

**श्री सी पी एन सिंह** : ये सब चीजें इसीलिये तो हो रही हैं ।

The last part of the hon. Member's question was whether an inquiry had been set up. That was set up immediately after this unfortunate mishap. A 20-Member Committee has been set up and the deadline for submission of the report is by the end of October, because on the basis of the recommendations of this Committee we would like to see that INSAT-1B is in perfect operational order.

**श्री राजेश कुमार सिंह** : फोर्ड एयरोस्पेस एण्ड कम्युनिकेशन कारपोरेशन से कोई स्पष्टीकरण आप ने मांगा है ? उससे लासेस और डेमेजेज के बारे में कोई जानकारी ली है और कितना शेर वे देंगे ?

**SHRI C. P. N. SINGH**: Sir, the Ford Aerospace are the company that manufacture it. We are going to have with the Committee some top experts of NASA as advisers and the Committee will look into the entire aspect and pinpoint the problems that occurred.

Regarding the insurance, I have already stated it in my answer.

SHRI CHANDRAJIT YADAV: Sir, this is a very major national loss and a major setback to our scientific efforts and I think that many important things which had to take place in three important sectors of our country, in tele-communications, in TV, broadcasting and meteorology, have all got an initial setback. Otherwise, these things would have taken our country much ahead. I agree with the Government that in scientific efforts and, what we say, these major scientific adventures, these things may have taken place when we are going to experimental stage, but this was not an experimental stage. Many of the spacecraft of this kind have been launched in different parts of the world successfully and this was also done very carefully by perhaps choosing the best company which Government says was available and also putting some of our very internationally known scientists. Their association with this...

MR. DEPUTY-SPEAKER: Some countries have met with failure also.

SHRI CHANDRAJIT YADAV: That is why I am saying that in spite of all these things, they do happen. But the question is whether all the necessary steps were taken, and whether the Government and the scientists and the Company which was responsible for this had made fool-proof arrangements for this kind of thing because this is not a question of money. It is one aspect that if a poor country like ours loses money, it affects the economy of that country, no doubt. But much more than the loss of money—money may be recovered from the insurance company, money may be recovered from the company which had given a certain period saying that within 180 days if something happens, because they were responsible for launching and for operational aspects also, they will perhaps pay that. That is not an important thing. The important thing is that it has created national disappointment. People have been disappointed all over the country. This is a major setback. I hope our

scientists who have made very important contribution will not be discouraged. Let us hope that they will continue their efforts in this direction and many other directions which the country needs from them. Reports which appeared do not give full facts. We have not full facts. Even the Government, at this stage, cannot perhaps say what are the reasons responsible for this setback. I would like to know the main conditions, main ingredients, main features of the contract which was entered with the American private firm—FACC.

One of our scientists, Dr. Rao, Director of ISRO himself made an observation which appeared in the press 'that a small lapse became responsible for this major thing'. What was that small lapse?

The statement of the Minister himself raises many doubts that there were certain lapses on the part of the Company itself. They say, "Sometimes, a very small lapse on the part of workmanship or some defect in fabrication in a very specific situation of the space may be responsible for these kinds of things."

Was all this taken into consideration? Was full guarantee taken? Was full attention paid? These things are not ruled out. I want to know before launching was the association of scientists, specialists—fabricators of space craft and all those who know the technicalities of equipment there or not? It is not only the scientists who matter. Besides scientists, our specialists—those who manufacture this kind of space craft, those who do fabrication work, those who know the technicalities of equipment used in space craft was this kind of association of all of them there or not?

Please see carefully the statement. On page 2 it has been said:

"Tank pressures dropped further and it was concluded that no more propellant was left in tanks and



the pressurant gas was flowing out through the thrusters whenever commanded to fire”.

Later on, they say:

“However, a preliminary reconstruction of events indicates that propellant loss was most probably...

Till now, we were knowing—because of loss of propellant the space craft did not function. But now they say why it did not function. They say why it happened.

“propellant loss was most probably caused by failure of an Oxidizer latch valve to open when commands were sent to support space craft in ‘Safe’ sun-acquisition mode.”

13.00 hrs.

It means it was not only the loss of propellant which was responsible but also the real thing was ‘failure of an Oxidizer latch valve to open when commands were sent to support space-craft’. It means that the serious lapse was somewhere else. Till now, through the newspaper reports we were coming to know that because of certain thing entire propellant was lost and, therefore, space-craft stopped functioning. Why did this happen? Have they made certain preliminary enquiries? I would like to know how has the Government reached this conclusion? What is the basis? I would like to know from the Minister that this Company has on its own set up what they call enquiry... (*Interruptions*) They have set up some kind of enquiry on their own to find out the causes and also to ascertain whether this kind of things may not happen in INSAT-1B. It is very important to remember that INSAT-1B was only to stand-by and the main one was INSAT-1A. Now, INSAT-1A having gone out of order, INSAT-1B cannot do the same functions as stand-by. Along with INSAT-1A, it would have been able to function better. Now

therefore, it is much more important that all these reasons are analysed. It is not enough that you have given 20 days or one month or six weeks to a committee of 20 scientists. I do not think, it is enough. In a period of 30 days, our scientists will not be able to understand all the causes or the failures and then give a go-ahead signal for the launching of INSAT-1B. I think, that will be a major mistake if the Government will commit itself because that will be in a hurry. Therefore, Sir, a full-fledged enquiry, a scientist commission of enquiry along with the people associated with FACC should be set up and the entire causes should be found out. The country should not be faced with another type of failure in INSAT-1B. I wish and we wish, it should not happen. But Sir, unless all these things are taken care of, it will cause further disappointment. Therefore, I will ask the Government for a full-fledged enquiry. I would also like to know from the Government whether FACC has set up some kind of enquiry committee to understand their problems? Did they consult the Government of India saying, we are setting up an enquiry committee? Did the Government of India ask this company, you are going to set up an enquiry and therefore we would like that our scientists and our technical people and competent people should also be associated with it? It is not enough that company is a known company and therefore whatever the company does the Government should go by that.

Therefore, I demand that the Government of India, in addition to setting up its own scientists enquiry commission, should ask the FACC that in the preliminary or whatever enquiry that they are conducting, they should also associate our scientists to know the real fact. Sir, in view of the fact that this Government says that now they have a system to advise the insurance company..

[Shri Chandrajit Yadav].

I want to know, what should they do? They say, the insurer, namely, the New India Insurance Company Ltd., have been advised of the total loss of INSAT 1A. I would like to know what advice has the Government of India given? How much loss is assessed by the Government of India and how much they are going to claim from this company? I would like to know this.

Now, all these programmes were depending on the successful launching of INSAT 1A. For example, many radio centres were to operate through that. Many Doordarshan Centres were to function through that. Tele-communication was to make a major headway through this system. Perhaps, it was thought at that time that Asiad was going to be held, conference of the heads of non-aligned States was going to be held and this communication would have done a lot of good. Now, in view of the failure of this, what alternative arrangement the Government is going to make? The last question which I would like to know from the Minister is this.

MR. DEPUTY SPEAKER: Are you sure, there are only three questions you have put now?

SHRI CHANDRAJIT YADAV: It will be the last question.

The Prime Minister herself has been personally taking a lot of interest in scientific and technical development of our country. This has been given top priority in our country since Pandit Jawahar Lal Nehru. He himself was taking personal interest that India should be in a position to match any advanced country of the world, because he did realise the importance of the development of science and technology in the modern era.

I would like to know, whatever these efforts have been—last Bhaskar was launched from the Soviet Union

and this was launched from the United States—whether the Government has framed any time-schedule, whether the Government has made necessary funds and necessary facilities available to our scientists and whether the Government has finalised any programme that in the near future India should be able to launch this kind of spacecraft or INSAT or other scientific achievements which are coming, like, APPLE and other things from our land.

SHRI C. P. N. SINGH: Sir, the hon. Member has posed not three but a number of questions. I would like to start with one where he was very keen about knowing whether Indian scientists and Indian technicians were associated, and the answer is positive. He did say about various fabrications and, after reading between the lines my statement, he said that there could have been flaws. Now, at this premature stage, it is really very very difficult to pinpoint what really happened. Sometimes, a structural problem does not create any snag and the particular vehicle keeps on moving and, some times, even with a particular portion working, we can have a snag. There are snags or problems, which can only be pinpointed after everything is looked into very very thoroughly.

Then, the hon. Member talked about our being associated with the Ford Aerospace having their own inquiry. I am sure, the hon. Member is aware that there are various portions of a satellite and various companies, not only the Ford Aerospace, having been associated in the manufacture. For instance, there is a portion called the Solar Sail Boom; the boom did not come out. All these companies will be naturally associated with this fact-finding. Therefore, I am sure, that part or the worry of the hon. Member will be looked into because our very success of INSAT-1B depends on a thorough investigation, pinpointing what really went wrong. We will not launch our INSAT-1B without ourselves being definitely sure of what happened.

The other part of the hon. Member's question was about the loss, the amount of money that has been lost. I think it is already there in my statement. But I will repeat it that it is about 64.9 million dollars. This loss is covered by insurance. But a loss like that of a satellite cannot be covered by money alone. It is a programme where money will repay for a complimentary satellite, like INSAT-1A or INSAT-1B, but the experience and the various problems, because of our not being able to go to the village or television, to radio, to communication, these kind of things can never be really assessed in rupees, and pises. The loss is bad; the loss is tremendous. But, fortunately, financially, as far as the investment made is concerned, we will recover the money from the insurance Company and, I do hope, the programme of launching of INSAT-1B which is complimentary to INSAT-1A will not be delayed beyond next year because the launching was scheduled for July and, maybe, after the report comes in October or November, we will be able to launch our second satellite with the technical expertise that we have.

The hon. Member has been associated with Government as a very senior Minister and is aware of kind of expertise, engineering and scientific capability that we have. We have confidence in them and, I am sure, it will be done.

Another portion of the Hon. Member's question was regarding the failure of the valve to open. It is not like a motor-car or a motor-cycle where you can put in a spark plug. The technical way of getting combustion is to have the propellant and the oxidizer pushed with helium. But because of the lack of telemetry, as it had lost its axis and was not pointing to the earth, the telemetry available at MCF could not say what was wrong. Within those 4 hours and 19 minutes, every ounce of fuel had been depleted. The oxidizer valve was not functioning.

The fuel, I believe, can be lost within 20 minutes. But, for 4 hours, when the satellite had lost its axis and its balance, being a geostationary satellite, we had no control, hence the depletion of fuel was unknown.

There are many things that would really become known after a thorough enquiry.

I can assure the Hon. Member and the august House that we will let this House know all about it the moment we have the report of the Committee.

SHRI CHANDRAJIT YADAV: The Hon. Minister has missed very important points.

MR. DEPUTY SPEAKER: The difficulty is you put three questions. But the Hon. Minister answers about 8 questions.

SHRI CHANDRAJIT YADAV: The Hon. Minister missed some important points which I asked.

I asked in my question whether the FACC has set up some kind of an enquiry committee and whether our Government has really asked them to associate some of our scientists with that enquiry.

All the Hon. Minister has said now is that a Committee is set up and the other companies which have been doing something will be associated.

I would, therefore, like to know about the 20-man Enquiry Committee which the Government is setting up. I asked for a Scientific Commission of Enquiry which should have larger scope and jurisdiction.

I would like to know whether the Government has got some representative on this Committee from FACC and the other companies which can be accommodated one way or the other. This is a very important question.

The second point which I ask is whether the Government has got any time-schedule for launching this kind

[Shri Chandrajit Yadav].

of space-craft from our own land and whether they have made any plan or project.

**SHRI C. P. N. SINGH:** As you rightly pointed out the Hon. Member posed a number of questions but not only three questions, Ford Aerospace has also set up an Internal Committee to enquire into what went wrong as far as their equipment goes.

One other portion of the Hon. Member's question which I would like to answer now is the loss of facilities on the ground because of the satellite and how it will be covered. At present, TV networking services, 8 regular TV transmitters and 20 LRP's after the functioning ground segment, would be available. I will get the information as to how much of our communication will still be functioning and, within a few days, we are trying to get more time on INTELSAT. Loss of INSAT-1A could not be compensated to that degree. But we do not lose on communication. Meteorology is the only thing which we would not be getting immediately because as I said there is no geo-stationary meteorology satellite pointing towards India and we have to depend on the two satellites of USA and USSR which rotate and go round twice, but as the Hon. Member is aware, two trips around would not give us a true picture of what is happening at those high altitudes.

Another portion of the Hon. Member's question was the failure of the satellites and how many of them have faced this type of problem. I have a long list of renowned companies, if the Hon. Member would like, I will give him the list of those companies. These problems happen even with the best of companies. It is not something that anybody wishes for. But an accident or a failure is something which is beyond our control. All we can do is really to pinpoint and to find out what went wrong.

**श्री राम बिलास पासवान (हाजीपुर) :**

उपाध्यक्ष महोदय, यह जो इन्सेट का लास है यह न सिर्फ लास है बल्कि देश की बड़ी बदनामी है और देश के नाम पर एक बहुत बड़ा धब्बा है। सबसे बड़ी चीज यह है कि हमारी बदनामी हुई है और हम पर बहुत बड़ा कलंक लगा है और जो हमारे मन में आशाएं थीं जो हमारी महत्वाकांक्षाएँ थीं उन सब पर पानी फिर गया है।

इसका बहुत प्रचार किया गया था कि जो एशियन गम्स होने जा रहे हैं क्लड टो बी० द्वारा उनको टैलेक्स किया जायेगा और यह कहा गया था कि विज्ञान और संचार का एक माध्यम खुल गया है और हम विज्ञान के क्षेत्र में बहुत प्रगति कर चुके हैं। 149 दिन में इन्सेट के गूत हो जाने पर हमारी सारी आशाओं पर पानी फिर गया है। इसके ऊपर जो खर्च हमको देना पड़ा वह 200 मिलियन डालर का था और अभी मंत्री महोदय ने यह बताया है कि हमें जो बीमा कम्पनी से पैसा मिलने वाला है वह 56 मिलियन डालर है। इसका मतलब यह हुआ कि 144 मिलियन डालर का हम को घाटा हो रहा है, लास हो रहा है। जब यह इन्सेट बनाया गया था तो इसकी कार्य अवधि 7 साल थी लेकिन जो वैज्ञानिक लोग थे उनका अनुमान था कि यह ढाई साल चल पायेगा लेकिन ढाई साल से पहले ही 149 दिन में इसकी मृत्यु हो गयी। ऐसा क्यों हुआ है। इसमें कहीं सेबोटेज तो नहीं है और कहीं हमारे कार्यक्रम में किसी तरीके की कोई खामी तो नहीं है। टैलेक्स के द्वारा जो एशियाड खेलों को दिखाया जाना था उसका विकल्प आपको मिलने नहीं जा रहा है और मिलेगा भी तो उसके लिये आप को दूसरों पर निर्भर रहना पड़ेगा और

जो मुनाफा आपको होना, वह नहीं होगा। यह उपग्रह एक व्यवसायिक उपग्रह था जिसके माध्यम से आप कुछ मुनाफा कमाने की बात सोच सकते थे लेकिन अब वह मुनाफा दूसरों के हाथों में चला जायेगा।

एक दूसरा प्रश्न 5 किलो ईंधन के सम्बन्ध में है। जिस समय यह तैयार हुआ था और इसको जहां से लांच किया जाना था, वहां इसका वजन 9 किलो बढ़ गया और 9 किलो वजन बढ़ने से जो पांच किलो की कटौती की गई, तो वह 5 किलो की कटौती ईंधन की की गई, जिसके आधार पर यह कहा गया कि यह पहले जितने दिन काम कर सकता था, उतने दिन काम नहीं कर पायेगा और सूर्य से इसे जो ऊर्जा प्राप्त करनी चाहिये थी, वह उर्जा भी इसको नहीं मिल पाई। तो ये सारे डिफेक्ट्स इसमें थे। 19 जुलाई को स्टीफन साहब ने दूसरे सदन में कहा था कि जो कह स्पेस के लिये इन्सेट के लिये चाहिये थी, वह जगह नहीं मिल पायी। तो ये सारी खामियां रही हैं। इन्होंने यह कहा कि इसका निर्माण एरोस्पेस एण्ड कम्युनिकेशन कार्पोरेशन ने किया। ये सारी चीजें इसमें हुयी हैं और मैं इसमें सरकार को क्रिटीसाइज नहीं करना चाहता लेकिन मेरे दिमाग में दो-तीन शंकाएं हैं, जिन को मैं इस सदन में रखना चाहता हूँ।

जैसा मैंने पहले कहा है कि इस के साथ आत्म-सम्मान का मामला जुड़ा हुआ है और इस में हमारी बदनामी हुई है। दूसरे इसके साथ आत्मनिर्भर का मामला भी जुड़ा हुआ है। हमारे देश में एक से एक वैज्ञानिक हैं। पता नहीं कितने वैज्ञानिकों को कितने दिनों तक, तीन वर्ष किसी ने बताया है, इसकी निगरानी के लिये रखा गया। अब निगरानी हमारे वैज्ञानिक कितना करते

थे और वैज्ञानिकों ने कितना निगरानी का काम किया, यह एक अलग विषय हो सकता है लेकिन सबसे बड़ी बात यह है कि इस क्षेत्र में जो हम आत्मनिर्भर बनना चाहते हैं, उसको धक्का लगा है। अब दूसरा उपग्रह छोड़ने के बारे में विचार कर रहे हैं। क्या दूसरे उपग्रह की भी दुर्गति होगी। मैं जानना चाहता हूँ कि क्या दूसरे उपग्रह के सम्बन्ध में आपने पहले से ही विचार-विमर्श अच्छी तरह से कर लिया है और आपके दिमाग में यह बात है कि इस में जो खामो रहो है, जो गलती रहे है, चाहे वह किसी तरह की हो, उस गलती को दूसरे उपग्रह में दोहराया नहीं जायेगा।

मैं सरकार से जानना चाहूंगा कि यह जो एग्जिमेंट हुआ था, क्या सरकार यह महसूस करती है कि इस एग्जिमेंट में कोई खामी थी? इसी प्रकार जिन लासेस की चर्चा की गयी है, इन तमाम लासेस को पूरा करने के लिये क्या प्रयत्न किये जा रहे हैं और अन्तिम प्रश्न यह है कि उपग्रहों के मामले में आत्मनिर्भरता के मामले में सरकार की भविष्य में क्या प्लानिंग है?

SHRI C. P. N. SINGH: I would like to read out a particular portion a detailed portion, of the expenses involved because I do not think I have clarified my point. There is a slight misconception regarding the amount of money spent. The money spent on the construction, fabrication and launching of this Satellite does not total to Rs. 113 crores. This is the projected amount for also the continued expenses that are going to be incurred towards INSAT-1B. What I have stated before hon. Member Shri Yadav had asked me, that figure still remains intact. The difference is the investment towards INSAT-1B programme. The hon. Member said something which, I think, is not true. The capabilities and the prestige the Government have attained because of

[Shri C. P. N. Singh]

the Department of Space is well-known. Let us not, by a failure of this sort, denigrate a group which has been doing excellent work and have put India on the map of the space world. We are sure that they, in their small way, have done their utmost without being in the limelight, sitting in the background and doing their work. Let us hope that they work harder and carry us further ahead in our space programme.

The hon. Member also spoke about other problems of fuel. I think, because of certain reports in the papers about excess fuel being on the particular launch vehicle. I will read out the portion which, I think, would clarify as it will become a report of the proceedings of this House:

“At the time of shipment, the spacecraft turned out to be 541.3 kg—about 7.3 kg heavier than planned...”

Of 541.3 kg, 7.3 kg is hardly an excess weight and that too, when

“...A good part of this weight increase was offset by reshaping the delta launch vehicle trajectory. The total satellite plus propellant mass finally lifted off was 1159.80 kg, with 617.15 kg of propellants.”

There was no off-loading of fuel at the launch pad.

I think, to all the hon. Members' questions I have tried my best to clarify and given as much information as I have. I only hope that the hon. Members will be patient for the inquiries that are being conducted so that the results of the inquiry are placed, and then further questions can be asked from the Government. The Government, I can assure you, will not and have never hidden any facts.

श्री राम बिस्वास पारुखान : मेरे प्रश्न का उत्तर नहीं आया। मेरा प्रश्न था कि सेबोटान की आशंका व्यक्त की गई है कि मुनाफा कमाने के लिये इसको खराब किया गया है, इस सम्बन्ध में सरकार को अभी तक क्या कोई जानकारी प्राप्त हुई है और दूसरे सदन में जो स्टीफन साहब ने कहा कि जो जगह हम चाहते थे वह उपयुक्त जगह हमको नहीं दी गयी थी। इन दोनों बातों में कितनी सत्यता है ?

श्री सी० पी० एन० सिंह : अब यह कहना तो बड़ा मुश्किल है कि सेबोटान हुआ है या नहीं हुआ है। जब इन्वैयरी कमेटी की रिपोर्ट आयेगी, तभी इसका पता लग पायेगा। लेकिन जिस तरह यह चीजें हुयी हैं मुझे यह विश्वास नहीं हो सकता है कि इसमें कोई सेबोटान हुआ हो। इस कम्पनी के बारे में बड़े प्रश्न हो रहे हैं, लेकिन मैं माननीय सदस्य को फिर से याद दिलाऊंगा कि सब टेन्डर्स और फाइनेल-इजेशन भूतपूर्व सरकार ने किया था। उस वक्त एशियाड क्लर टी० वी० की बात माननीय सदस्य कर रहे हैं, उस वक्त टेलिविजन का कोई प्रावधान इस सेटलाइट में नहीं था।

MR. DEPUTY-SPEAKER: Even he will have his colour television in his constituency.

श्री सी० पी० एन० सिंह : अब हम लोगों ने क्लर टी० वी० का किया है और एशियाड में हम इंटरसेट के माध्यम से क्लर टेलिविजन एशियाड का हिन्दुस्तान के गांवों में दिखायेंगे, जो कि पहली सरकार ने नहीं सोचा था।

**SHRI HARIKESH BAHADUR:** Mr. Deputy-Speaker, Sir, there is no need to drag the previous Government. Rather, this is the Government which has come to work and they are working in this fashion which is already before us.

**MR. DEPUTY-SPEAKER:** They can grant the previous Government. Why do you worry about it? You were not there at that time.

**SHRI HARIKESH BAHADUR:** They had not decided for that particular work. Sir, INSAT I-A was a very ambitious plan of our country and it was said that this INSAT I-A was a fully functional satellite with specific rules to play in the field of television broadcasting, weather monitoring and telecommunication system.

But, Sir, it has failed miserably. Everybody knows it. It has already been thoroughly discussed in this House. Now, the point is whether it is a technical failure or a political mischief. If it is a technical failure, certainly, I can say that Government was not interested in destroying the whole thing.

**MR. DEPUTY-SPEAKER:** Don't bring in politics.

**SHRI HARIKESH BAHADUR:** I shall be speaking regarding this.

**SHRI CHANDRAJIT YADAV:** He was speaking regarding political mischief.

**SHRI HARIKESH BAHADUR:** If it is a technical failure, I would like to urge upon the Government that our scientists should not be discouraged. They should be given further encouragement. They have tried their talent in the best possible manner. But, by chance, if it has happened, there is no fault of theirs. At this point of time itself, I would like to clarify that our scientists are not being given justice properly. That is why in many scientific organisations, they are committing suicides. The Indian Council of Agricultural Research is a burning example. Even

our scientists in the Bhabha Atomic Research Centre are also not satisfied. Therefore, I would like that Government must take all these things into consideration.

As I have already said, if there was any political mischief, it is a serious matter. The U.S.A. is a friendly country. But, Sir, sometimes the intentions of certain organisations are doubted.

**MR. DEPUTY-SPEAKER:** The U.S.A. has nothing to do with that. That is a company—not a Government company.

**SHRI HARIKESH BAHADUR:** He was telling that an enquiry was going on. Sir, the American Multi-National Corporation had been given an opportunity to manufacture that satellite. Now, Sir, from the enquiry, everything will be clear. But, certainly, there is a doubt.

**MR. DEPUTY-SPEAKER:** Let us await the report.

**SHRI HARIKESH BAHADUR:** There is a doubt in the minds of the people whether the Multi-National Corporation had played some mischief. This is in our minds. That is why I want to go on record straightway. Here, I would like to ask a very specific question. The other satellites which are going to be manufactured, I want to know whether those satellites are going to be manufactured by the same organisation or the Government is entering into a contract with some other organisation. This is a question which I would like to be answered by the hon. Minister.

Our Indian Scientists had been supervising this. I want to know whether they had been given adequate opportunities to look into the manufacture of that satellite properly or not. In future, what will be the functions of our scientists and what will be their role? On 19th July, as the hon. Member, Shri Paswan said the Minister did not reply that question.

[Shri Harikesh Bahadur]

Mr. Stephen, the then Communication Minister had told the other House that India had not got the best slot for its INSAT-1A. The place India had desired, had gone to the other country. I would like to put one question specifically for answer by the hon. Minister.

If it is true, what are the steps which are being taken to solve this problem? Is there any problem of this kind which the then Communications Minister had told the other House? Another point which I would like to raise is this: When this INSAT-1A was going to be launched, at that time, it was found that this particular satellite was over-weighty. The hon. Minister has given some clarifications about it. But I can say one thing. Our scientists are knowing all technical aspects and they might have informed him on the basis of which he might have replied. Now, every gramme of the weight which is put in the space requires certain magnitude of force by which it can be properly controlled, guided, and given certain velocity. If it is increased by such a large weight, I do not know whether there will not be some adverse effect on the operation. But I think, and I feel, everybody can think like that, that it may have some adverse effect. Therefore, this aspect should also be very carefully examined.

The last point which I would like to raise is this: In his reply the hon. Minister has stated that actions for a full failure-review of INSAT-1A spacecraft are on. Now, I would like to get a categorical reply from the hon. Minister whether after getting the enquiry report, he will place it on the Table of the House. We demand that the enquiry report must be laid on the Table of the House.

SHRI C. P. N. SINGH: Sir, the hon. Member and I went to the poll

together in 1980. So, his initial demand about the last Government having done...

MR. DEPUTY-SPEAKER: I have myself clarified it.

SHRI C. P. N. SINGH: We went to the poll together from the same party, with the same programme. So, I will not comment on that point.

I share his concern about the denigration of the scientific community. I think the best way would have been to let the scientists themselves, who are technical experts, go into this matter, and give their final report, and then we could have discussed it. But, as this matter has come up now, I will say that this Government, with the leadership which we have, has always given to the scientists maximum help and impetus. So, that kind of interest has never been lacking; and on confidence, I am sure, the scientists alone would be able to tell us. The second aspect which he referred to was about suicide by scientists.

MR. DEPUTY-SPEAKER: Mr. Harikesh Bahadur is also a Scientist. He is having M.Sc. Degree.

SHRI C. P. N. SINGH: I know it. I do not have the data just now with me. Scientists are also human beings and also Indians. I feel that the ratio of scientists committing suicide would not be higher because we all know that they are of a different grade mentally. Therefore, unless there is some great physical or mental disability with them, nobody would like to take such an extreme step.

Then, he pointed out one thing and rightly so. I am sorry I have forgotten to answer the last portion of Mr. Paswan's question. That was regarding Mr. Stephen's statement in the Rajya Sabha on a suitable slot in space for the satellite. Sir, whenever



any Satellite is put up in space, then, the Government which is concerned with it, makes an application to the International Tele-communication Union and, on the basis of 'First-come-first-served' that particular country is allotted a slot. Prior to launch of the Satellite, this process was adhered to and we did get a suitable slot. I am quite positive that that aspect has been clarified even earlier by the Department of Space.

One of the other questions which again the hon. Member raised was regarding the scientists being allowed to function freely on this Committee. Sir, it has been set up by the Scientists and Technicians and I am sure they are the best judge as to who should be on that Committee. Once again, I would appeal to the hon. Members, let us await this report and then when the report comes, as it will be very very technical we will de-technicalise it and put its results before the hon. Members and this august House

MR. DEPUTY-SPEAKER: Mr. Bheekhabhai. He is absent.

*(The Lok Sabha adjourned for Lunch till thirty-five minutes past fourteen of the Clock)*

*The Lok Sabha re-assembled after Lunch at thirty-seven past Fourteen of the Clock.*

[SHRI CHINTAMANI PANIGRAHI in the Chair].

MR. CHAIRMAN: The Minister of Irrigation.

14.37 hrs.

#### STATEMENT RE. FLOOD SITUATION

THE MINISTER OF IRRIGATION (SHRI KEDAR PANDEY): I rise to make a statement on the flood situation in various parts of the country. In spite of lean and delayed monsoon activity in some parts of the country, heavy floods have occurred in Assam, Bihar, Orissa and Uttar Pradesh. Floods of lower intensity have also inundated areas in Andhra Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Tripura and West Bengal. Based on the information furnished by the State Governments to Central Water Commission, Ministry of Irrigation, the total area affected by floods is about 76 lakh hectares and a population of 335 lakhs. 932 human lives have been lost. The value of total damage due to floods and cyclone has been placed at Rs. 1150 crores approximately. The flood damage during the last year was Rs. 1132.31 crores.

The State-wise position regarding the flood situation and the flood damage as contained in Annexure-I is laid on the Table of the House.

#### Annexure I

This year, the South-Western monsoon reached Kerala on May 30, 1982, two days in advance. By 17th June, the South-West monsoon covered most parts of the peninsular India, South-East Madhya Pradesh, Orissa, Assam, West Bengal, Sikkim, Maharashtra and Bihar. In spite of the delayed and weak monsoon activity in some parts, the entire country was under the influence of monsoon by July 22, 1982. The lean monsoon activity was observed in some parts of the country affecting the States of Andhra Pradesh, Karnataka, Maharashtra, Gujarat and West Bengal. In some of the States like Uttar Pradesh, Bihar, Karnataka both flood and drought conditions have been experienced. The South-West monsoon withdrew from